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| 10/661,983 | 09/12/2003 | Richard L. Wilder | IGT1P202/P-902 | 9326 |
| 79646 7590 04/13/2009 Weaver Austin Villeneuve & Sampson LLP - IGT Attn: IGT P.O. Box 70250 Oakland, CA 94612-0250 | | | | |
| EXAMINER RENDON, CHRISTIAN E | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/661,983

Applicant(s)

WILDER ET AL.

Examiner

CHRISTIAN E. RENDÓN

Art Unit

3714

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION
Response to Amendment

This office action is in response to the amendment filed on 12/29/08 in which applicant amended claims 47 and 63; responded to the claim rejections. Claims 33-67 are still pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33-43, 45-59 and 61-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis (WO 02/32521 A1) in view of Berkel (Image Preparation for 3D-LCD).

1. Ellis discloses a game for playing on a slot machine that depicts the spinning motion of virtual slot reels as the transformation of two dimensional (2D) reel images into three dimensional (3D) objects in motion (Ellis: pg. 5, par. 3, lines 1-8). Ellis describes a participate placing a wager on the random outcome that is compared to a win table (Ellis: pg. 5, par. 3, lines 9-11). Therefore the slot machine must contain a value input device to accept the wager and a gaming controller in conjunction with a memory performing at least the 3D calculations outputted to a 3D display. Ellis is however silent about the characteristics of the required 3D display.
2. "Image Preparation for 3D-LCD" will be referred to as "the article" past this point in the Office Action. The article describes the two major drawbacks found in lenticular displays: Moiré-like effect and uneven use of horizontal and vertical pixel resolution (Introduction: par. 3, lines 1-5). Berkel solves both of these problems by slanting the lenticular cylinder lenses that is parallel (fig. 2) to a LCD at a small angle, α (Introduction: par. 4, lines 1-5). The use of color triplets (Introduction: par.4, lines 11-12), grouping of red, green and blue (RGB) pixels allows Berkel to minimize the width of vertical RGB stripes (Multi-view Pixel Mapping: par. 9, lines 1-2). Berkel notes that systems of 8 or 9-views contain smaller color stripe at the cost of a lower pixel count when compared to a 7-view system

(Multi-view Pixel Mapping: par. 9, lines 17-20). The use of a slanted lenses and color triplets complicates the mapping of a pixel (x, y) ; therefore Berkel requires the following variables and equations to determine the location and viewing number of a pixel and its sub-pixels:

p_u (lens pitch of one lenticular lens)

P_h (horizontal pixel pitch)

$$x = kp_h$$

$$y = 3lp_h$$

$$x_{offset} = (x - y \tan \alpha) \bmod \left(\frac{m+1}{m} \frac{p_u}{\cos \alpha} \right)$$

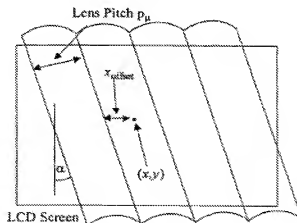


Figure 2 Multiview Pixel Mapping

$$N = \frac{(k + k_{offset} - 3l \tan \alpha) \bmod X}{X} N_{tot}$$

N = the view number for each sub-pixel (k, l) , (x, y) coordinates defined by a horizontal pixel pitch

3. Regarding claims 33, 45-46, 49 and 65-66, Ellis describes placing a wager through a **value input device** towards a **random outcome** (Ellis: pg. 5, par. 3, lines 9-11) of a 3D game played on a **slot machine**. The slot machines disclosed by Ellis are capable of accessing the **internet**; therefore the gaming device is in communication with a server. Even though Ellis remains silent about several expected features found in slot machines, it is well known in the art of gambling for a slot machine to contain a **gaming controller and memory** to operate the game. Furthermore the game described by Ellis requires a 3D display and Ellis leaves the design decision towards the display to an ordinary artisan. This ordinary artisan would combine Ellis with a **multi-view lenticular display** created by Berkel since Ellis rotates a 2D image into 3D space (Ellis: pg. 2, par. 2) and Berkel creates 3D object

using a set of 2D images (Image Preparation – Graphical User Interface: par 4, lines 12-13). Berkel discloses the program called ‘Octopus Multi-view Editor’ as providing an intuitive means for mapping a set of images to create a complete multi-view 3D picture (Image Preparation – Graphical User Interface: par 2). Therefore providing an ordinary artisan the necessary means to utilize the lenticular display to its fullest potential. As described above, Berkel teaches the structure of the **multi-view display as positioning a lenticular lens at angle** and parallel or **juxtaposition** to a LCD (fig. 2). As well as, a **pixel mapping algorithm** for N number of views for pixel (x, y) & sub-pixel (k, l) through the equations found in this office action.

4. Regarding claim 34-35 and 50-51, Berkel teaches a **pixel mapping algorithm for N perspective views therefore requiring an N number of images** to create a 3D object (Image Preparation – Graphical User Interface: par 4, lines 12-13).

5. Regarding claims 36-37, 48, 52-53 and 64, Berkel discloses the design reason towards utilizing a **9 view** system of cylindrical lens (Introduction: par. 2, line 1) over a 7 view system (Multi-view Pixel Mapping: par. 9, lines 17-20). The image (figure 1) provided depicts the division of a LCD into 7 regions or views thus interlacing the pixels into one complete image; therefore dividing the total resolution of the display between a horizontal and vertical resolution to create the different views (Introduction: par. 4, lines 4-6). For example, in a 7 view system the horizontal resolution of each view is reduced by a factor 2.5 and the vertical resolution by a factor 3 from the original LCD (Introduction: par. 4, lines 7-9). Therefore a 9 view system would evenly divide the total resolution between the horizontal and vertical resolution (Introduction: par. 3, line 5) of each view by a factor of 3 thus a 9 view system is a combination of **three horizontal and three vertical views**. Furthermore, the prior art teaches calculating the view number, N for each **sub-pixel** (k, l) .

6. Regarding claims 38-39 and 54-55, the applicant claims a pixel mapping algorithm based on a particular equation. The limitations are rejected as mere design choice with respect to the equation

taught by the prior art due to the design conditions stated in the applicant's specifications. The specification state a plurality of lenticular lens may be position parallel or slanted with respect to the pixel columns of a display screen (pg. 15, lines 17-18). In addition, an implementation of a slanted lenticular lens has to properly calculate the horizontal position **L** of a pixel relative to the lenticular that is placed above it (pg. 15, lines 20-22). The equation in the claim language provides a pixel mapping algorithm for lenticular lens position parallel to the pixel columns. However if one of ordinary skill choose to build the disclosed alternative the artisan would require an equation that accounts for *the amount of slant*. The prior art already teaches an equation, X_{offset} that calculates the proper location of a pixel when taking into consideration the angle, width or pitch and magnification of the slanted lens disclosed as alternative by the applicant. Thus both equations produce the same result, mapping a pixel; however the implemented equation is based on the ***design decision made by the ordinary artisan*** (to slant or not?).

7. Regarding claims 40-43, 56-59 and 67, as stated before Ellis discloses the **virtual representation of a mechanical slot machine** in 3D when the reels spin. Therefore the prior art teaches at least one wager based game, slots.

Claims 44 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis in view of Berkel and Gomez (US 7,297,058 B2).

8. The above description and limitations of the art combination created from Ellis and Berkel are considered within this art rejection as well. Both prior arts fail to mention the use of video display and **mechanical reels**. Gomez discloses a slot machine with **mechanical reels** as the primary display and a **video display** as the secondary display (Gomez: col. 2, lines 60-65). Therefore at the time of the applicant's filing date the idea of using mechanical reels and a virtual display simultaneously is known to the art. One of ordinary skill would include a mechanical reel to encourage older players to play a game that displays its bonus game through a video display.

Claims 47 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis and Berkel in view of Aden et al. (US 6,208,389 B1)

9. The above description and limitations of the art combination created from Ellis and Berkel are considered within this art rejection as well. Berkel teaches constructing a **lenticular screen comprising a plurality of lenticular** placed on top of an LCD display (Introduction: par. 2). Therefore **one side of the lenticular will face the observer and the other will face the display screen** or LCD. The prior art references remain silent towards applying an **anti-reflective coating** on the second side of the lenticular, the side that faces the observer. Aden teaches applying an **anti-reflective coating** to the surface of lens or glass of a display to suppress disturbing reflections (Aden: col. 3, lines 28-32). Therefore it would have been obvious for an ordinary artisan to apply an **anti-reflective coating** to the second surface in attempt to reduce light reflections.

Response to Arguments

Applicant's arguments filed 12/29/08 have been fully considered but they are not persuasive.

Rendering Ellis inoperable or unsatisfactory for its Intended Purpose

The Examiner disagrees which the applicant's assumption that the lenticular display taught by van Berkel would blur and/or distort a 2D image. The art teaches using a computer program to manipulate a set of 2D images to create a multi-view 3D image for the display (Image Preparation: par. 2). Each image provides a different perspective and the combination of the multiple images produces a single 3D image (Image Preparation: par. 4). Hence the reference provides the possibility of displaying a 2D image instead of a 3D image by presenting the same image perspective for each view. By displaying a single perspective of an image multiple times at different views, the viewer will not experience the illusion of depth or movement since each view is exactly the same. Furthermore, the Examiner would like to point out Cracker Jack boxes or as DVD box such as Superman: Doomsday and Species II are examples of a lenticular image. Both examples present 2D images at each view and the illusion of motion appears only when the viewer moves the lenticular image to view the next slightly altered

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image. Therefore the lenticular image is displaying a 2D image when the viewer provides no motion to the image. In other words, the Examiner views a lenticular display having no problems with displaying a 2D image when it is composed of the same 2D image.

Examiner's Note

Applicant is duly reminded that a complete response must satisfy the requirements of 37 C.F. R. 1.111, including: "The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented claims, patentable over any applied references. A general allegation that the claims "define a patentable invention" without specifically pointing out how the language of the claims is patentably distinguishes them from the references does not comply with the requirements of this section. Moreover, "The prompt development of a clear Issue requires that the replies of the applicant meet the objections to and rejections of the claims." Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP 2163.06 II(A), MPEP 2163.06 and MPEP 714.02. The "disclosure" includes the claims, the specification and the drawings.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTIAN E. RENDÓN whose telephone number is (571)272-3117. The examiner can normally be reached on 9 - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dimtry Suhol can be reached on 571-272-4430. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dmitry Suhol/
Supervisory Patent Examiner, Art Unit 3714

/CHRISTIAN E RENDÓN/
Examiner Art Unit 3714
CER